



## QUARTERLY PROGRESS REPORT

|  |   |  |  |
|--|---|--|--|
| Project Title:   | Estimation of Truck Volume and Flows                |  |  |
| RFP NUMBER:<br>NJDOT 2001-18                               | NJDOT RESEARCH PROJECT MANAGER:<br>Nicholas Vitillo |  |  |
| TASK ORDER NUMBER/Study Number:<br>116 / 4-26855           | PRINCIPAL INVESTIGATOR:<br>Maria Boilé              |  |  |
| Study Start Date: 01/01/2002<br>Study End Date: 12/31/2003 | Period Covered: 1 <sup>st</sup> Quarter 2003        |  |  |

| Task   | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|------------|------------------------|-------------------|---------------------|
| Literature Search  | 6%         | 5%                     | 100%              | 6%                  |
| <b>Task 1</b> Data collection  | 8%         | 25%                    | 100%              | 8%                  |
| <b>Task 2</b> List of major truck generating facilities                  | 8%         | 10%                    | 100%              | 8%                  |
| <b>Task 3</b> Criteria or factors that influence changes in truck flow   | 10%        | 10%                    | 100%              | 10%                 |
| <b>Task 4</b> Relationships between ADT and truck volumes                | 16%        | 20%                    | 55%               | 8.8%                |
| <b>Task 5</b> Methods to estimate truck flow and truck percentages       | 17%        | 15%                    | 15%               | 2.6%                |
| <b>Task 6</b> Validate the estimation method on a selection of 12 routes | 17%        | 0%                     | 0%                | 0%                  |
| <b>Task 7</b> Apply methodology on a statewide basis                     | 8%         | 0%                     | 0%                | 0%                  |
| <b>Task 8</b> Quarterly progress and final reports                       | 10%        | 10%                    | 40%               | 4%                  |
|  |            |                        |                   |                     |
| TOTAL  | 100%       |                        |                   | 47.4%               |

### 1. Progress this quarter by task:

**Task 1** – During the last meeting at NJDOT it was determined that additional traffic data were available. The team collected these data and compiled it into a database linked to a GIS program. The data includes primarily short duration unadjusted counts and have been classified based on type and amount of information contained. The database of truck traffic information includes NJDOT station location, type of count (permanent or short-term), total volume, vehicle classification. An additional effort was put into this task which has now been completed. The product is a GIS based program containing a line layer which defines the roadway segments and a point layer with the various traffic counts.

**Task 2** – The database containing major truck generating facilities has been completed with all the information that was available from NJDOT or was collected by the team. In addition to the information that was discussed in the previous quarterly report, employment information by employment sector was included in the database. This information is used as a predictor of truck traffic.



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**Task 3** – The criteria and factors that influence changes in truck flow have been determined and decided upon during the last project meeting at NJDOT. These criteria and factors have been applied to the aggregation of roadway segments for various roadways.

**Task 4** – The statistical analysis which was presented during the previous meeting at NJDOT was revised and additional analyses were performed to address the RSIP comments. Additional data were included and cluster and multiple regression analyses were performed. The sensitivity of model results to the size of the buffer area around each link considered in the analysis was examined. The available data were further analyzed within the GIS framework to determine relationships between ADT and truck volumes.

**Task 5** – The data to be used in the model that will estimate truck flows in selected areas is being collected by the previous tasks and is being organized in GIS. Initial work is being done on model development.

2. Proposed activities for next quarter by task

The statistical analysis will be finalized and a report will be developed presenting the best models and results of their application. Further analysis on the relationship between ADT and truck volumes will be performed and final results will be summarized in a report. The work on model development under task 5 will continue.

3. List of deliverables provided in this quarter by task (product date)

Task 2 – Revised Technical Memorandum (to be submitted during the next project meeting)

4. Progress on Implementation and Training Activities

N/A

5. Problems/Proposed Solutions

N/A

6. Budget Summary\*

|   |              |               |
|---|--------------|---------------|
| Total Project Budget(# of years)                      | 2 Years      | \$ 198,508.00 |
| Total Project Expenditure to date                     |              | \$92,075      |
| % of Total Project Budget Expended                    |              | 46%           |
| Task Order Number/Study Number:                       |              | 116 / 4-26855 |
| Current Task Order Budget (# of years)                | Year 1 and 2 | \$ 198,508.00 |
| Actual Expenditure to date against current task order |              | \$92,075      |
| % of current task order budget expended               |              | 46%           |

\* These are approximate expended amounts for the project; these estimates are for reference only and should not be used for official accounting purposes. For a more accurate project accounting please review the quarterly invoice for this project.

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